

# The C eeco

~~Experimental Aircraft Association~~ • ~~Chapter 393~~ • ~~Concord, CA~~

Mail to: EAA Chapter 393 P.O. Box 272725 Concord, CA 94527-2725

JUNE, 1993

## CHAPTER MEETING

June 23, 1993 The 4th Wednesday of every month @ 7:30pm; Old Buchanan Terminal Building, Concord Airport. Bring Chairs. *Wear your \$\$\$@% Badges please!*

By popular request, we have no specific guest speaker this time so that we can have a general information sharing session. I know that several of you have some good solid stuff to report on regarding Watsonville and Merced. I will certainly be ready and willing to give a progress report on my glass cockpit. So come armed to the teeth with your input.

## 1993 BALLAST

PRESIDENT	Glenn Werner 676-8786
VICE PRESIDENT	Jim Lewis 930-9429
SEC/TREASURER	Callie Joyner 671-4871
NEWSLETTER EDITOR	Will Price 254-2267

## MINUTES OF MEETING 5/26/93

The meeting was called to order by President Glenn Werner. Glenn reported on the Hayward workshop with glowing remarks about the 393 contribution. Congratulations and thanks to those who took the time to participate. At the same time, he made a pitch for our participation in the Watsonville event. I think Glen deserves special congrats for taking the bull by the horns and putting our contribution together.

Your editor reported on effort being put forth by Lisle Knight regarding 393 participation in the Young Eagles program. Lisle will report at the upcoming meeting.

Our speakers for the evening were from Trimble Navigation: Glenn Steiner and Tom Neale. If you missed this one, you can weep because they gave us a great presentation on GPS. Not only did they talk, but they also brought a video and some slides (for those of you who needed to catch up on your nap) and they demonstrated two units: one portable and the other panel mounted. Our members that I spoke with after the meeting said that the presentation really helped in clearing up numerous GPS questions they had. It certainly was informative for me.

The video included a demonstration of an instrument approach using differential GPS--very impressive. [Differential GPS operates on the basis of a GPS transceiver located at a fixed location to transmit correction information to GPS receivers within a local area. As you might expect, the price of equipment for our airplanes would be out of sight but prices will drop if this ever goes into production.] As I said, if you missed this, you missed a good one.

Glenn and Tom have our sincere appreciation for their time and effort.

Following the meeting we had our introductions. Ron Robinson reports that his Glasair is signed off; congratulations, Ron.

Gordon Bowen told us about glass fabrics and different weaves. In particular, he described a different form of bid that exhibits higher strength than the standard weave we use. If you have any questions, call Gordon.

Ray Nilson flew his Christen Eagle for the first time; congratulations to you, Ray.

Lyle Powell is now painting his rocket ship (Glasair), a real fun job. Our condolences to you, Lyle.

## THE AIRPORTS COALITION

Nothing of great significance has happened lately. A working group consisting of representatives of all interested entities will convene in July. The focus will be to find an alternate training site for helicopter training. Patrick Corr, coowner of Helicopter Adventures has gone all out in attempting to be a good neighbor to the residents surrounding Buchanan Field.

## THE ANNUAL PICNIC

Mark your calendars now as the annual 393 picnic is scheduled for July 17, 1:00 PM. As before, it will be at the small lawn area adjacent to Navajo. The chili, condiments and soda are provided by 393. Your contribution depends on the first letter of your last name: A to J bring hotdogs; K to T bring buns (type FAA approved hotdog, not hamburger); U to Z bring dessert (pies, cakes, cookies, etc).

Let's have a big turn-out for this. It gets us together in a rare social gathering of our members and serves as a sendoff to those of us planning the Oshkosh pilgrimage. We are looking forward to having a lot of first flight airplanes, too.

## **MOTORING PERFORMANCE**

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### **THE YOUNG EAGLES PROGRAM**

As I mentioned at the last meeting, Lisle Knight has taken the bull by the horns for 393 participation in the EAA sponsored Young Eagle program. At the meeting several of you indicated interest in participating. That's great; I say let's make 393 the number 1 participating chapter. Lisle will report at the upcoming meeting.

Several of you have expressed concern over your legal liability--a very valid concern. To that end, I am including two separate statements from EAA.

Individual insurance notwithstanding, to address some of the concerns expressed by individual EAA Members, EAA put in place a liability insurance policy. This policy provides excess passenger liability insurance coverage for individual EAA members who fly their own aircraft or rented aircraft in conjunction with the Young Eagle Program. The underlying requirement is that the primary owned aircraft liability insurance or renters liability insurance have at least \$100,000 per passenger seat coverage. If this underlying coverage is in place, then the EAA excess passenger liability insurance coverage would provide an excess of \$1,000,000 per occurrence over and above the underlying limit of coverage. Of course, the restriction against charging Young Eagle for their ride still applies.

EAA has insurance in place that will provide coverage of \$1,000,000 per occurrence for bodily injury and property damage arising out of a Chapter sanctioned Young Eagle Rally. This coverage only applies to aircraft that are not owned by the Chapter. There aren't any forms to complete in order to activate this coverage. In addition, there are no restrictions on the types of aircraft that can be used. This coverage does not apply to Chapter owned aircraft. Coverage also does not apply if the Chapter or the individual EAA Member participating makes any charge or receives any payment for the use of their airplane.

If you have any question about this special coverage, please contact the EAA Insurance Office at (414) 426-4822.

In addition, your Board is in the process of requesting supplemental coverage (an additional \$1,000,000 liability) through a special offer from EAA. The cost will be \$35/year.

### **UNCONSTITUTIONAL - UN-AMERICAN - UNREASONABLE**

We are hardly the only ones that have gripes as evident by the following article I found in the February 1993 Newsletter of Chapter 170

A discussion has come up among aeronauts regarding the advisability of the enactment of a law which would tend to prevent accidents from happening in the future. It is proposed by some to endeavor to make it illegal for anyone not holding an aeronaut's license from an aero club to make an ascension.

The law is preposterous. To begin with no such law could ever be passed and if it were it would be unconstitutional.

Congress has enacted many foolish laws during the past, but non (sic) so absurd as to give a private club or corporation the power to decide as to who shall and who shall not make an ascension.

Suppose this law had been passed five years ago. Baldwin, the Wright Brothers, Santo Dumas, Farman, Delagrange, Bleriot and others would have had to secure permission from some aero club to carry on their investigations, and if the pooh-bah did not like their looks he could have kept them from going into the air at all, or sent them to jail.

There is one thing that the people of the world have always considered as being absolutely free, and that is the air. Rockefeller with all his power has not been able to control the air. It is free to breathe and it must be left free to navigate.

Accidents will occur in the future as they have always occurred in the past through experimentation of new principles.

Laws will be made to protect the public against reckless aeronauts, but these will be public and private laws. No club will decide who shall go up or down.

Taken from the magazine *Fly*, November, 1908.

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## REGARDING MAGNETOS

I recently came across the article which follows regarding magnetos. It seems to be appropriate in that John Schwaner (Sacramento Sky Ranch) has recently published his new book titled *The Magneto Ignition System*. According to his press release, his book explains how the ignition system works by using Slick and Bendix magnetos as examples. It includes such items as how altitude affects the magneto, voltage and energy requirements, ignition lead's effect on spark voltage, magneto induced engine roughness and ignition noise. Furthermore, he discusses advantages and disadvantages of the impulse coupling versus the retard breaker magneto, what the "P" lead does, what "bumping" the magneto is, and how a noise filter may reduce magneto output.

The book is 98 pages in length and sells for \$10.95. It is well worth the price--I have one myself. Order from Sacramento Sky Ranch at 1-800-433-3564 or mail to Sacramento Sky Ranch, P.O. Box 22610, Sacramento, CA 95822.

## NTSB RECOMMENDS MORE MAG MAINTENANCE

The following was extracted from Light Plan Maintenance

On April 29, 1992, the National Transportation Safety Board (NTSB) issued a trio of safety recommendations regarding magnetos. Based on accident reports and FAA Service Difficulty Reports, NTSB concludes that magnetos are suffering from mass neglect. And this neglect is leading to preventable engine failures.

Since 1985, the Safety Board has cited magnetos as a cause or factor in 92 accidents involving 22 fatalities and 21 serious injuries. Thousands of Service Difficulty Reports (SDRs) regarding magnetos produced by various manufacturers were submitted to [FAA] during this period, including 130 reports referencing cracked, burning, arcing, leaking or other deficiencies in Bendix magneto ignition coils.

The Safety Board believes that periodic inspection, overhaul and replacement of critical components are important, fundamental facets of magneto remedial maintenance. However, perusal of accident reports and SDRs makes it clear that the current level of magneto inspection, maintenance and service is much too infrequent.

In performing annual and 100-hour inspections of reciprocating-engine powered aircraft, maintenance personnel are required to run the engine(s) to determine satisfactory performance in accordance with the manufacturers' recommendations regarding power output (static and idle RPM) and magnetos. However, the later requirement relates only to determining that engine RPM using both magnetos does not drop excessively when individual (left or right) magnetos are selected and that the variance in RPM drop between magnetos is not excessive. The magnetos are not removed and inspected unless a problem is evidenced. As a result, there is no assurance of the integrity of the magnetos' components or that the magnetos are capable of continued safe, reliable operation. Although the magneto manufacturers, Teledyne Continental Motors (TCM), Bendix [TCM acquired the Bendix ignition system

product-line years ago], and Slick Aircraft Products, have issued service bulletins prescribing specific overhaul and inspection intervals, and although various ADs have been issued concerning directed remedial actions such as AD 73-07-04, there is no specific regulatory requirement for routine, periodic removal, overhaul or comprehensive inspection of magnetos.

Teledyne Continental Motors recommends that all of the magnetos in their product line be disassembled and given a detailed inspection at 500-hour intervals. Service Bulletin No. 632, "Maintenance Intervals for All TCM and Bendix Aircraft Magnetos," issued by TCM in November, 1989, further emphasizes several other important inspection/overhaul intervals:

1. **Magneto-to-engine timing check.** Timing checks will be conducted at 100-hour intervals or as specified in a progressive maintenance schedule. Should the timing fall outside the limits specified by the engine manufacturer and the magneto needs to be 'bumped,' a visual inspection of the magneto contact assemblies will be performed. Follow procedures in the Periodic Maintenance section of the appropriate Series Magneto Service Manual, included in TCM Ignition Systems Form X-40000 Master Service Manual. If internal magneto components require replacement or adjustment, the magneto must be removed from the engine.
2. **500-hour impulse coupling inspection.** All affected magnetos equipped with impulse couplings must be inspected for wear at the 500-hour interval as specified in the latest revision of Service Bulletin 599C.
3. **Engine overhaul or four-year interval.** Magnetos are electro-mechanical devices which use rotating parts and are subject to the same service treatment, environmental conditions and wear as the engine. Therefore, magnetos will be overhauled when the engine is overhauled. Also at engine overhaul, harnesses should be replaced and ignition switches and starting vibrators should be internally inspected and functionally tested for airworthiness.

In addition to the guidelines listed above, magnetos will be overhauled at the expiration of four years without regard to the accumulated operating hours since new or last overhauled. Lubricants will have deteriorated beyond their useful life in magnetos older than four years."

There are unknown numbers of airplanes which, because they have been stored or otherwise utilized infrequently, may not yet have accumulated sufficient total flight time to require that the obsolete Bendix magneto ignition coils and/or rotating magnets be replaced with more reliable parts in accordance with AD 73-07-04. However, it is clear from the SDRs that these components, particularly the ignition coils, can be adversely affected by the environment over relatively long periods of time. As a result, they should be replaced and subsequently inspected at conservative intervals of calendar and flight time. Therefore, the Safety Board believes that all obsolete Bendix ignition coils and rotating magnets that are still in service should be replaced at the next

appropriated maintenance interval, irrespective of total flight time. Moreover, all aircraft magnetos should be subject to detailed inspections and overhaul at appropriate intervals in accordance with the manufacturers' maintenance instructions.

Therefore, the NTSB recommends that the FAA issue an airworthiness directive applicable to all Bendix S-20, S- 200, S-600 and S-1200 series magnetos requiring, unless already accomplished, compliance with Bendix Service Bulletin No. 566A, "Replacement of Magneto Transformer Coils and Rotating Magnets," at the next annual or 100-hour inspection, whichever occurs first.

NTSB further recommends that FAA issue an airworthiness directive applicable to all Teledyne Continental Motors, Bendix and Slick Aircraft Products aircraft magnetos requiring: (1) That they be removed, disassembled and inspected in accordance with the respective manufacturer's periodic maintenance instructions at the next annual or 100-hour inspection, and at every 500 flight hours thereafter unless such an inspection has already been conducted within the past 500 hours of flight, or the magnetos have not yet accumulated 500 hours of flight time; and (2) That they be overhauled at appropriated intervals in accordance with the manufacturer's maintenance guidelines and detailed overhaul procedures.

What many might find surprising (even shocking) is just how much neglect magnetos suffer and yet continue to operate to the last gasp. Most mechanics satisfy themselves with a quick timing check and maybe with a peek at the points during an annual inspection. That's just not enough. Sure, the inspection requirements spelled out for Bendix and Slick mags may add to the time and expense of an annual, but the inspections aren't all that demanding. The 500-hour inspections, though more comprehensive, are also not nearly as onerous as they've been made out to be.

### REQUEST FOR OSHKOSH HELP

One of our new members from the last meeting is Gordon Bowen of Hexcel. It seems that Alexander Aeroplane and Hexcel are co-sponsoring the composite workshop at Oshkosh this year. This year they want to really do something with it. So if you can volunteer a portion of your valuable Oshkosh time to help out they would really appreciate it. Let's have some 393 participation. HEY-- this is what EAA is all about! For information call Gordon at 256-7385 (home) or 847-9500 x3727 (work).

### PILOTS SHOULD BE BRAVE

The following article has made the rounds, from the February 1992 "Flying Farmers of California" Newsletter, and the Chapter 484 newsletter:

I want to be a pilot when I grow up because it's a fun job and easy to do. That's why there are so many pilots today. Pilots just don't need much school, they just have to learn numbers so they can read instruments. I guess they should be able to read maps so they can find their way if they are lost. Pilots should be brave so they won't be scared if it's foggy and they can't see or if a wing or motor falls off they should stay calm so they'll know what to do.

Pilots have to have good eyes so they can see through clouds and they can't be afraid of thunder and lightning because they are closer to them than we are. The salary pilots make is another thing I like. They make more money than they can spend. This is because most people think flying is dangerous except pilots because they know how easy it is. There isn't much I don't like, except girls like pilots and all the stewardesses want to marry them so they always have to chase them away so they won't bother them. I hope I don't get airsick because if I get airsick, I couldn't be a pilot and I'd have to go to work.

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## CALENDER OF EVENTS


Here we go on the annual calendar of events. Notice, that some have question marks for the dates. They were "leftover" from last year and I assume that they will be sponsored again this year. If you know the dates, please let me know.

- June 26-27 24th Annual Truckee-Tahoe Airshow.  
Call (916) 587 4119.
- July 3 Oakwood Lake Resort Air Show,  
Manteca. Call Steve Stavrakakis  
(209) 6322689.
- July 4 Reid-Hillview 4th July Picnic Fly-In.  
July 7-11 EAA Fly-In, Arlington, WA.  
July 17-18 Budweiser Warbird Invasion, Tracy  
Airport. Call (805) 498-7221.
- July 23 Wings for Charity, Livermore, CA,  
July 24 Vacaville Air Fair, Nut Tree Airport (707)  
446-0322
- ??? Evergreen Fly-In  
??? Madera Fly-In
- July 29-August 4 OSHKOSH. Call (414) 4264800.  
Aug 20-22 Gathering of Warbirds, Madera  
Aug 21-22 Aviation Expo: Tribute to Women, Van  
Nuys
- Aug 28-29 Hawthorne Air Fair, Hawthorne  
Sept 4-6 California Air and Water Festival, Long  
Beach
- Sept 10-12 Chico Antique Airshow, Chico  
Sept 19 Santa Maria Air Fair, Santa Maria  
??? Pacific Coast Air Museum (Sonoma  
County) Open House
- Oct 1-2 Calif International Airshow, Salinas  
Oct 2-3 Travis AFB Air Expo  
Oct 16 Santa Barbara Airshow  
Oct 16-17 Chino Air Show  
Oct 23 Edwards AFB  
Oct 23-24 Pt. Mugu Air Show  
Oct 24 Castle AFB Airshow  
Oct 30-31 March AFB Open House  
Nov 7 Fall Fly-In and Airshow, Half Moon Bay

## COMPOSITE BUILDER SUPPORT GROUP

For information about the Composite Builders Group, call Lyle Powell at 938-3217. To be placed on the mailing list for the CBG, send your name and address to Jordan Coonrad, PO Box 2878, Alameda, CA 94501 or call him at 769-9766.

RICHARD S. POWELL



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## UNCLASSIFIED ADS

### WANTED--RIDE TO OSHKOSH

If you have a spare seat and are looking for someone to share expenses to Oshkosh call Larry Bianchina at 784-3237 (work) or 582-4582 (home)--both are 510 area code.

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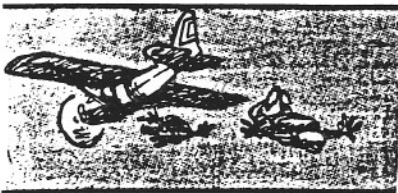
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0293

### WANTED

A builder hangar-mate. Call Ray Nilson 672-5139.

### WANTED

Hangar space for Tri-Pacer fuselage. Call Eric Sweet at 531-9330.





Special Notice:

On Father's Day (Sunday the 20th) Helicopter Adventures is sponsoring an open house (10:00 AM to 5:00 PM). They will have a variety of displays including numerous helicopters (they now have their first Robinson R44). They also have set aside an area to display homebuilt aircraft. I have contacted several of you regarding displaying your airplanes. If anyone who I have not contacted would like to display your homebuilt, call me at 254-2267 and I will give you details. Note that you need *not* be there the entire time.

Will

**The C<sub>1</sub>eco**

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